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EXAMINER

BELIVEAU, SCOTT E

ART UNIT	PAPER NUMBER
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2614

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/851,841

Applicant(s)

LUNDBALD ET AL.

Examiner

Scott Beliveau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings were received on 04 May 2005. These drawings are approved.

Response to Arguments

2. Applicant's arguments with respect to claims 1-32 have been considered but are moot in view of the new ground(s) of rejection.

With respect to applicant's arguments pursuant to the D'Luna reference, subsequent to further consultation subsequent to the interview with an examiner that works in the area of computer memory architecture, the examiner respectfully disagrees with applicant's arguments. As noted by applicants, the D'Luna reference discloses the particular usage of a single-chip set-top box. The particular functional division of functionality within a single structure is considered to meet the limitation of a "single processing component". For example, memory controller [112] and MIPS R30000 CPU [114] of Figure 2 while illustrated and described as separate functional components are still physically a single component residing within a single chip and therefore are part of a single component.

With respect to applicant's remarks pertaining to the particular usage of some components accessing other forms of memory, the claims are not so limiting with respect to the system precluding the usage of any on-board cache memory in addition to the unified memory; nor is such clearly set forth in the specification as originally filled. Given the common usage of on-board cache memory within a CPU and the silence with respect to the exact nature of the processing component or CPU of the instant application, it is unclear that

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the CPU of the instant application is completely absent of any other form of internal memory such as that utilized to store the browser application or other executing instruction sets or on-board cache memory.

As to applicant's remarks such that the system of D'Luna comprises a number of different processors to provide processing requirements for other components, the examiner respectfully does not follow applicant's arguments. It would appear that applicant's are trying to differentiate between the single processor [60] of the instant application and what are labeled as different "processors" of Figure 2 of D'Luna. Similarly, applicants appear to be arguing that Chaney utilizes a security processor and a microprocessor and therefore spread processing requirements across multiple processors. However, in light of the claims, as set forth, it is the examiner's interpretation that the claims do not require that each and every component in the set-top box rely solely on the process for its processing requirements. Such an interpretation also appears consistent with the specification. The specification only sets forth that the CPU is capable of providing processing requirements for several components (IA: Page 19, Lines 10-16), but does not clearly set forth that it solely provides all processing requirements in the set-top box for each and every component. For example, an argument could be made that the "processing requirements" of the "A/V/D" unit include "processing" by the transport module [50] and "processing" by the conditional access module [90/91] (IA: Page 18, Lines 13-23. Similarly, it is unclear that the CPU [20] is also solely providing processing requirements for the modem.

As to the usage of a "browser", as noted by the applicant, D'Luna supports browser functionality but is unclear as to where a browser or browsing functionality can be

implemented. It is the examiner's interpretation that a "browser" or the software utilized to enable the user in viewing received enhanced content is included with both the graphics processor/engine [102] and the processor [114] (during execution) which is utilized to render for viewing the various windows and particular interactive content as illustrated in exhibit B of the provisional application (US Provisional App No. 60/266,753) and/or any retrieved web pages. The claims do not necessarily require that the "browser" is an Internet or web browser per se or that the instructions or software code need be solely resident or embedded within either module. For example, if the processor [114] were executing a high-level browser application associated with retrieving and processing content from the Internet a portion of the "browser" would be included within the processor [114] during execution. Similarly, a low-level "browser" application is included or used by the graphics processor/engine [102] in order to render graphical windows associated with retrieved interactive content or other graphical functions for the user's viewing or browsing.

Claim Objections

3. Claim 27 is objected to because the claim sets forth a method comprising a number of steps. The first limitation, however, is not set forth as a step, but is rather appears to be physical component. It would appear that the limitation should be added to the preamble of the claim such that the set top box comprises "a processor . . ." and is capable of receiving the digital transmission or as a part of a "wherein" clause. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
6. Claims 1-5, and 8-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen et al. (US Pub No. 2002/0010932) in view of D'Luna et al. (US Pub No. 2002/106018 A1).

In consideration of claim 1, Figure 1 of the Nguyen et al. illustrates a "system" [100] comprising a "set-top box" [22] that "receives" a "digital transmission including video packets, audio packets and data packets" (Para. [0025], [0027], and [0030]). As illustrated in Figure 1, the system comprises a "tuning component for receiving the digital transmission, wherein the tuning component produces at least one channel . . . having digital data" [104] (Para. [0032]), an "A/V/D unit for processing each at least one channel" [114/122/126], and a "single processing component" [132] including a "browser for browsing interactive content

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that can be included in digital data of a channel” (Para. [0032] and [0030]) wherein the “single processing component solely provides control and processor requirements for each component in the set top box, including the tuning component, the A/V/D unit, and the browser” by virtue of it being the only CPU in the STB [22] which controls its overall operation. While the system comprises an “internal . . . memory” [176], it is unclear if the memory is considered to be a “unified memory” or how the memory is actually controlled, however, the Nguyen et al. reference suggests that the system architecture is not limiting and that other architectures may be employed (Para. [0043]).

In a related art pertaining to STB architectures, Figure 1 of the D’Luna et al. reference discloses a “set-top box” architecture that is operable to “receive a digital transmission” such as that associated with MPEG-2 transmissions “including digital data including video packets, audio packets and data packets” (Para. [0034]) through a “set top box” [10] which “receives and processes the digital data” (Para. [0033]). As illustrated in Figure 2, the “set top box” [100] comprises “a tuning component” [124/104/111] (Para. [0035], [0037], [0038], [0041], and [0042]), an “A/V/D unit” [102/106] for “processing each at least one channel” (Para. [0039] – [0040]), a “single processing component” [112/114] which “solely provides control functionality and processor requirements for each component in the set top box” (Para. [0036]) and a “unified memory” [126] (it the examiner’s interpretation that the memory is merely external to the STB system chip, but is still internal to the system). The “unified memory” has “access solely controlled by the single processing component” [112/114] and “satisfies memory requirements of each component in the set top box including the tuning component, the A/V/D/ unit, and the processing component” (Para.

[0050]). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made so as to modify the Nguyen et al. so as to utilize a single chip architecture such as that utilized by D'Luna et al. for the purpose of fabrication time, cost and maintenance costs associated with the manufacture of a set-top box that can perform multiple functions (D'Luna et al.: Para. [0003] – [0005]).

With respect to the claimed limitation such that the “processing component is configured to dynamically use” or allocate the “unified memory”, the combined references are silent as to the details regarding the memory arbiter of the “processing component” [112/114]; however the D'Luna et al. explicitly incorporates co-pending US Pat App No. 09/641,374 (Para. [0049]) by reference in its entirety. The incorporated co-pending application discloses that the “processing component” [112/114] “dynamically uses” the aforementioned “unified memory” [126] “for the tuning component and the A/V/D unit according to respective needs of the . . . component[s] to provide sufficient resources” (Macinnis et al. ('374): Page 105, Line 13 – Page 106, Line 2; Page 108, Lines 4-14). Taken in combination, the memory arbitrator would further “provide sufficient resources such that the interactive content can be access by a user of the set top box” in accordance with the disclosed web-browsing functionality of both the D'Luna and Nguyen et al. references.

Claim 2 is rejected wherein the aforementioned “set top box” [100] as illustrated in the D'Luna reference comprises “at least one tuning and demodulating component for tuning and demodulating the digital transmission to produce at least one transport stream” [124/104] (Figure 3; Para. [0037]) and “at least one transport module” [111] for “producing the at least one channel from the at least one transport stream” (Figure 7; Para. [0041] and [0042]).

Claim 3 is rejected wherein the aforementioned “at least one tuning and demodulating component” [124/104] of D’Luna comprises “at least one tuner” [124] (Para. [0038]) and “at least one demodulator for demodulating the at least one transport stream” [104] (Para. [0057]).

Claim 4 is rejected wherein as illustrated in Figure 7 of D’Luna the “at least one transport module” [111] comprises “at least one transport demultiplexor for demultiplexing each at least one transport stream to produce each at least one channel” and “at least one descrambler for decrypting each at least one channel that is encrypted” [716] (Para. [0041] – [0043] and [0091] – [0106]).

Claim 5 is rejected wherein the “A/V/D unit” [102/106] of D’Luna comprises an “audio decoder for decoding audio packets of the at least one channel” (Figure 8), a “video decoder for decoding video packets of the at least one channel” (Figure 11), and a “data component for processing data packets of the at least one channel” (not clearly illustrated) (Para. [0040]) associated with received data by the “set top box” (Para. [0033]) including “data” associated with web browsing functionality graphics (Para. [0114]), closed caption information (misabeled video reconstruction & closed captioning block of Figure 11), and/or out-of-band messaging (Para. [0039]).

In consideration of claim 8, as previously set forth, Figure 1 of the Nguyen et al. illustrates a “system” [100] comprising a “set-top box” [22] that “receives” a “digital transmission having digital data including interactive content, video programming and audio programming” (Para. [0025], [0027], and [0030]). As illustrated in Figure 2, the system comprises “one or more tuning and demodulation components” [104/106], a “transport

demultiplexer" [110], an "A/V/D unit" [114/122/126/136], memory [176], and a "processing component" [132] "including a browser for browsing the interactive content . . . [and] solely providing processing requirements" for the STB [22]. As aforementioned, the reference is unclear as to the particular usage of a "unified memory" architecture and how the memory is controlled, but suggests that the system architecture is not limiting and that other architectures may be employed (Para. [0043]).

In a related art pertaining to STB architectures, Figure 1 of D'Luna et al. illustrates a "system" that is capable of "receiving a digital transmission" such as that associated with MPEG-2 transmissions which includes "interactive content, video programming and audio programming" (Para. [0034]) through a "set top box" [10] which "receives and processes the digital data" (Para. [0033]). As illustrated in Figure 2, the "set top box" [100] comprises "one or more tuning and demodulating components" [124/104] for "tuning and demodulating one or more transport streams contained in the digital transmission, each transport stream being capable of carrying the digital data" (Para. [0035] and [0037] - [0039]), a "transport demultiplexor" [111] which as illustrated is "operably connected to the one or more tuning and demodulating components for demultiplexing each transport stream output by the one or more tuning components to produce one or more channels" (Figure 7; Para. [0041] - [0042] and [0091]), an "A/V/D unit" [102/106] for "processing the digital data of the one or more channels . . . decoding the video programming, and the audio programming and processing the interactive content of the one or more channels" (Para. [0039] - [0040] and [0048]), a "unified memory" [126] (Para. [0050]), and a "processing component" [112/114] for "solely proving processing requirements" as needed and "controlling unified memory access for each

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component in the set top box including the one or more tuning and demodulating components, the transport demultiplexor, and the A/V/D unit” as illustrated in Figure 2.

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made so as to modify the Nguyen et al. architecture so as to utilize a single chip architecture with a “unified memory” such as that utilized by D’Luna et al. for the purpose of fabrication time, cost and maintenance costs associated with the manufacture of a set-top box that can perform multiple functions (D’Luna et al.: Para. [0003] – [0005]).

Claim 9 is rejected wherein the “interactive content includes one or more of . . . graphics; and Internet web pages” (D’Luna et al.: Para. [0114]).

Claim 10 is rejected wherein “each tuning and demodulating component” [124/104] of D’Luna comprises “at least one tuner operably connected to at least one demodulator” (Para. [0038] and [0057]).

Claim 11 is rejected wherein the D’Luna reference teaches that “each channel is a video stream” (Para. [0044]) which will be eventually displayed [50].

Claims 12 and 13 are rejected in light of Nguyen et al. wherein the “set top box” [22] further comprises a “communications device” [162] which is a “modem for connecting with the Internet over the digital system” (Para. [0030] and [0037]).

Claim 14 is rejected wherein the “A/V/D unit” [102/106] comprises a “graphic engine” [102] for “processing interactive content of the one or more channels” (Para. [0048] and [0114]), an “audio decoder for decoding audio packets of the one or more channels” (Figure 8), and a “video decoder for decoding video packets of the one or more channels” (Figure 11).

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7. Claims 18-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over D'Luna et al. (US Pub No. 2002/106018 A1) in view of Crosby et al. (US Pat No. 5,933,192).

In consideration of claim 18, Figure 1 of D'Luna et al. illustrates a "system" that is capable of "receiving a digital transmission" such as that associated with MPEG-2 transmissions which includes "at least interactive content, video programming and audio programming" (Para. [0034]) through a "set top box" [10] which "processes the digital data" (Para. [0033]).

As illustrated in Figure 2, the "set top box" [100] comprises a "tuning and demodulating component" [124/104] for "producing at least one transport stream from the digital transmission" (Para. [0035] and [0037] - [0039]), a "transport demultiplexor" [111] for "receiving each transport stream output by the tuning and demodulating component . . . selects a channel from each transport stream . . . comprising a serial bitstream of related packets . . . comprising at least one of video packets, audio packets, and interactive content packets" in accordance with the processing of an MPEG encoded signal (Figure 7; Para. [0041] - [0044] and [0091]), an "A/V/D unit" [102/106] including a "browser" or embedded software which enables the "A/V/D unit" to render interactive content/graphics for viewing by the user associated for display "decodes the video packets, decodes the audio packets and processes the interactive content packets with the browser" (Para. [0039] - [0040], [0048], and [0144]), a "unified memory" [126] (Para. [0050]) that "solely satisfies the memory requirements of components in the set top box including the tuning and demodulating component, the transport demultiplexor and the A/V/D unit" (Macinnis et al. ('374): Page 105, Line 13 - Page 106, Line 2; Page 108, Lines 4-14; Page 124, Lines 7-13), and a

“processor” [112/114] which “solely provides processing requirements for components of the set top-box” associated with coordinating the operations of the STB (Para. [0036]) and “solely controls access to the unified memory of components of the set top box” through the memory controller functionality as illustrated in Figure 2.

The D’Luna et al. reference discloses that it is operable to support audio/video, data, and/or graphics content using satellite links (Para. [0033]), however, it is unclear if the aforementioned “tuning and demodulating component” [124/104] necessarily comprises a “plurality of tuners . . . being operably connected with a corresponding demodulator”. In an analogous art associated with video distribution system set-top terminals, Figure 1 of the Crosby et al. reference illustrates a satellite receiver for processing MPEG encoded data and generating a subsequent transport stream wherein the “tuning and demodulating component” [20] comprises a “plurality of tuners . . . being operably connected with a corresponding demodulator” (Col 3, Lines 30-61). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made so as to modify the D’Luna et al. “tuning and demodulating component” [124/104] so as to utilize a “plurality of tuners” as claimed and disclosed by Crosby et al. for the purpose of advantageously providing a means by which to provide quicker response to a user’s command to change channels through the use of multiple tuners (Crosby et al.: Col 1, Lines 49-53).

Claim 19 is rejected wherein “each of the at least one transport streams produced by the tuning and demodulating component comprises multiplexed channels” in accordance with the MPEG specification (Crosby et al: Col 1, Lines 30-51).

Claim 20 is rejected wherein the “transport demultiplexor” [111] “demultiplexes each of the at least one transport streams to select at least one channel” for display (D’Luna et al.: Figure 7; Para. [0041] and [0042]).

Claim 21 is rejected wherein the “A/V/D unit” [102/106], as disclosed by., is “capable of producing at least one video output and at least one audio output for use by an end device” (D’Luna et al.: Para. [0040]).

Claim 22 is rejected wherein the “end device” [50] is a “television capable of rendering the at least one video output and the at least one audio output.” (Para. [0033])

Claim 23 is rejected wherein “access to the unified memory” [126] by the “A/V/D unit, the transport demultiplexor, and the tuning and demodulating component” is solely controlled by the “processing component” [112/114] (Macinnis et al. (‘374): Page 105, Line 13 – Page 106, Line 2; Page 108, Lines 4-14).

Claims 24 and 25 are rejected wherein the “set top box” [100] comprises a “conditional access component” [716] which comprises “security means for ensuring that only authorized consumers obtain access to encrypted channels” in accordance with the DVB encryption standard (Para. [0043]).

8. Claims 27-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over D’Luna et al. (US Pub No. 2002/106018 A1) in view of Chaney et al. (US Pat No. 6,594,361 B1).

In consideration of claim 27, Figure 1 of D’Luna et al. illustrates a “system” having a “set top box” [10] that is “capable of receiving a digital transmission” such as that associated with MPEG-2 transmissions which contains “video packets, audio packets, and data packets including interactive content” (Para. [0034]). As illustrated in connection with the

components of Figure 2, the “set top box” [10] subsequently implements a “method for processing the digital transmission to produce video and audio outputs” for display on a television [50]. As aforementioned, the system is operable to “tune the received digital transmission to produce a transport stream having at least one channel, wherein some of the at least one channel are encrypted” [124/104] (Para. [0035] and [0037] - [0039]), “demultiplex the transport stream to produce the at least one channel, through a conditional access to a security system” [111] (Figure 7; Para. [0041] – [0044], [0091], and [0095]), and “process the video packets, audio packets and data packets contained in the at least one channel with an A/V/D unit” [102/106] (Para. [0039] – [0040] and [0048]) in order to produce the “video and audio outputs” for presentation on the television [50]. Furthermore, the system comprises a “processor” [112/114] that “solely provides the processing requirements for components of the set top box and solely controls access to a unified memory contained in the set top box dynamically allocating portions of the unified memory to other components based on their respective needs” (Macinnis et al. (‘374): Page 105, Line 13 – Page 106, Line 2; Page 108, Lines 4-14).

As previously set forth, the D’Luna et al. reference discloses the particular usage of “conditional access” in connection with a smart card or “security system” (Figure 7; Para. [0043]). The reference, however, is silent as to the details of its operation such that the system “passes encrypted keys” and “receives decrypted keys” as claimed. The Chaney et al. reference provides evidence that it is commonly known in the art in connection with smart card based systems to “pass encrypted keys extracted from the at least one channel, through a conditional access “[180] to a “security system” [183] and to “receive decrypted keys,

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through the conditional access, from the security system” (Chaney et al.: Col 3, Line 47 – Col 4, Line 13; Col 4, Line 47-64; Col 5, Line 48 – Col 6, Line 14). Accordingly, it would have been obvious to one having ordinary skill in the art so as to utilize the particular techniques for distributing conditional access packets to a smart card as is known in the art as evidenced by Chaney et al. for the purpose of providing a means so as to provide a means to advantageously limit access to programs using well-known techniques associated with smart card systems (Chaney et al.: Col 1, Line 13 – Col 2, Line 24; Col 7, Lines 21-22)

Claim 28 is rejected wherein the aforementioned “step of tuning the received digital transmission further comprises the step of demodulating the received digital transmission” (D’Luna et al.: Para. [0057]).

In consideration of claim 29, the aforementioned “step of passing encrypted keys further comprises the step of transmitting entitlement management messages (EMM) and entitlement control message (ECM) packets to the security system” [180] (Chaney et al.: Col 5, Line 48 – Col 6, Line 14).

Claim 30 is rejected wherein the aforementioned “step of processing . . . with an A/V/D unit” [102/106] comprises “decoding the audio content, decoding the video content, and processing the interactive content with a browser” (D’Luna et al.: Para. [0044] and [0144]).

Claim 31 is rejected wherein the “step of receiving decrypted keys” further comprises “decrypting the at least one channel if the at least one channel is encrypted” (Chaney et al.: Col 5, Line 64 – Col 6, Line 14).

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9. Claims 6, 7, and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen et al. (US Pub No. 20002/0010932), in view of D'Luna et al. (US Pub No. 2002/106018 A1) and in further view of Chaney et al. (US Pat No. 6,594,361 B1).

In consideration of claim 6, the D'Luna et al. reference discloses the particular usage of "conditional access" [716] in connection with a "vendor system" or smart card using either the DVB or DES encryption standard (Figure 7; Para. [0043]). The reference, however, is silent as to the details of its operation such that the "conditional access receives conditional access packets in the at least one channel and transmits the conditional access packets to a vendor system". In an analogous art pertaining to conditional access in video distribution set-top terminals, the Chaney et al. reference provides evidence that it is commonly known in the art in connection with smart card systems for a DES based "conditional access" [130] to receive "conditional access packets" (ex. ECM or EMM) in "at least one channel and transmit the conditional access packets to a vendor system" or smart card [180] (Chaney et al.: Col 3, Line 47 – Col 4, Line 13; Col 4, Line 47-64; Col 5, Line 48 – Col 6, Line 14). Accordingly, it would have been obvious to one having ordinary skill in the art so as to utilize the particular techniques for distributing conditional access packets to a smart card as is known in the art as evidenced by Chaney et al. for the purpose of providing a means so as to provide a means to advantageously limit access to programs using well-known techniques associated with smart card systems (Chaney et al.: Col 1, Line 13 – Col 2, Line 24; Col 7, Lines 21-22).

Claim 7 is rejected wherein the Chaney et al. reference further discloses that the aforementioned typical "conditional access" [130] further "receives decrypted keys" from the

“vendor device” [180] for use in “decrypting each of the at least one channel that is encrypted” (Channey et al.: Col 5, Line 64 – Col 6, Line 14).

In consideration of claim 15, as aforementioned, the D’Luna et al. reference discloses the particular usage of “conditional access component” [111] in connection with a “vendor system” or smart card using either the DVB or DES encryption standard (Figure 7; Para. [0043]). The reference, however, is silent as to the details of its operation such that the “conditional access component receives conditional access packets from the digital transmission and transmits the conditional access packets to a vendor system” such as a smart card. The Chaney et al. reference provides evidence that it is commonly known in the art in connection with smart card systems for a DES based “conditional access component” [120/130] to receive “conditional access packets” (ex. ECM or EMM) from a “digital transmission” derived from a “DSS” or digital satellite system and implicitly being MPEG based in view of the particular usage of standardized MPEG terminology such as PID (Col 3, Lines 47-55) and to “transmit the conditional access packets to a vendor system” or smart card [180] (Chaney et al.: Col 3, Line 47 – Col 4, Line 13; Col 4, Line 47-64; Col 5, Line 48 – Col 6, Line 14). Accordingly, it would have been obvious to one having ordinary skill in the art so as to utilize the particular techniques for distributing conditional access packets to a smart card as is known in the art as evidenced by Chaney et al. for the purpose of providing a means so as to provide a means to advantageously limit access to programs using well-known techniques associated with smart card systems (Chaney et al.: Col 1, Line 13 – Col 2, Line 24; Col 7, Lines 21-22)

Claim 16 is rejected in wherein the aforementioned “conditional access component” [120/130] “receives entitlement management message (EMM) packets and entitlement control message (ECM) packets carried in the digital transmission and provides the ECM packets and the EMM packets” to the “vendor system” [180] (Chaney et al.: Col 4, Lines 47-64; Col 5, Lines 49-59).

Claim 17 is rejected wherein the “conditional access component” [120/130] “receives decrypted keys from the vendor system for use in decrypting each of the one or more channels having encrypted digital data” (Chaney et al.: Col 5, Line 64 – Col 6, Line 14).

10. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over D’Luna et al. (US Pub No. 2002/106018 A1), in view of Crosby et al. (US Pat No. 5,933,192), and in further view of Letellier et al. (US Pat No. 6,594,361 B1).

In consideration of claim 26, the D’Luna et al. reference discloses the particular usage of encryption and an “application program interface”, however it does not particularly disclose nor preclude the usage of the “application program interface” in connection with the conditional access components as claimed. In a related art pertaining to supporting conditional access in video distribution set-top terminals, the Letellier et al. reference discloses a “conditional access component” associated with the set-top terminal which comprises an “applications programming interface” that is “capable of interacting with a vendor supplied device” [120] such that “conditional access packets are provided to the vendor supplied device through the conditional access component” in accordance with the DVB-CI specification (Col 2, Lines 12-21; Col 3, Line 46 – Col 4, Line 31). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was

made so as to utilize the “application program interface” teachings of Letellier et al. in connection with the D’Luna et al. device for the purpose of advantageously facilitating transparent support for conditional access features to a set-top box in a manner that facilitates open standardization while maintaining propriety system elements (Letellier et al.: Col 2, Lines 33-34 and 62-67).

11. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over D’Luna et al. (US Pub No. 2002/106018 A1), in view of Chaney et al. (US Pat No. 6,594,361 B1), and in further view of Letellier et al. (US Pat No. 6,594,361 B1).

In consideration of claim 32, the D’Luna et al. reference discloses the particular usage of encryption and an “application program interface”, however it does not particularly disclose nor preclude the usage of the “application program interface” in connection with the conditional access components as claimed. As aforementioned, the analogous art related Chaney et al. reference discloses the particular usage of conditional access in a satellite based system (Chaney et al.: Col 3, Lines 48-55). The Letellier et al. reference teaches a method whereby “conditional access” [120] comprises an “applications programming interface . . . [that] is accessible by the security system” in accordance with the DVB-CI specification (Col 2, Lines 12-21; Col 3, Line 46 – Col 4, Line 31). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made so as to utilize the “application program interface” teachings of Letellier et al. in connection with the D’Luna et al. device for the purpose of advantageously facilitating transparent support for conditional access features to a set-top box in a manner that facilitates open standardization while maintaining propriety system elements (Letellier et al.: Col 2, Lines 33-34 and 62-67).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure as follows. Applicant is reminded that in amending in response to a rejection of claims, the patentable novelty must be clearly shown in view of the state of the art disclosed by the references cited and the objections made.

- The Danne et al. (WO 97/20281) reference provides evidence as to the existence of a processor with an embedded browser.
- The Levy article entitled "Get set for set-top boxes" provides an overview of various set-top box architectures.
- The Gass article entitled "Architecture Trends of MPEG Decoders for Set-Top Box" provides an overview of the changing system architecture for set-top box decoders.
- The Nakatsuka et al. (US Pat No. 6,839,063) reference provides evidence as to memory access methods in a unified memory system wherein the CPU comprises an integrated memory controller.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Beliveau whose telephone number is 571-272-7343. The examiner can normally be reached on Monday-Friday from 8:30 a.m. - 6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Miller can be reached on 571-272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2614

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SEB

July 15, 2005



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